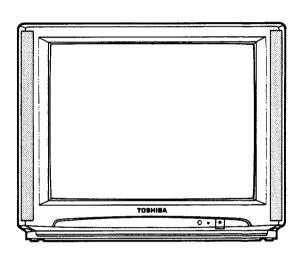
# SERVICE DATA FILE NO. 050-716 PAL-B/G SYSTEM

# TOSHIBA COLOUR TELEVISION 2535DN



### **SPECIFICATIONS** 129 W, AC 220 ~ 240 V, 50 Hz Input Power Rating: 75 ohm unbalanced type for VHF, UHF and CATV Aerial Input Impedance: CCIR (B/G.PAL) TV Broadcast Standard: **Receiving Channels:** VHF ...... channels 2 to 4, 5 to 12, S1 to S41 UHF ...... channels 21 to 69 Picture I-F carrier frequency ...... 38.9 MHz Intermediate Frequencies: Sound I-F carrier frequency ...... 33.4 MHz Colour sub-carrier frequency ...... 34.47 MHz Picture Tube: 25 inches, A59ECY13X31, 590 mm (measured on diagonal of viewable picture area), 110° deflection 10.0 W x 2 (at 10% Distortion) **Sound Output:** 120 mm x 80 mm oval 2 pcs Speakers: 21 pin socket (FULL), 21 pin socket (S-VIDEO/AUDIO) S-VIDEO, VIDEO/AUDIO INPUTsocket Aux. Terminals: Cabinet: Table type **Dimensions:** Height ...... 516 mm Width ...... 640 mm Depth ...... 447 mm Weight: Features: Video input of PAL-B/G, FASTEXT reception, OFF-timer, NICAM/IGR stereo

Specifications are subject to change without notice.

### SAFETY INSTRUCTIONS

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" INSTRUCTIONS BELOW.

### X-RAY RADIATION PRECAUTION

- 1. The E.H.T. must be checked every time the receiver is serviced to ensure that the C.R.T. does not emit X-ray radiation as result of excessive E.H.T. voltage. The nominal E.H.T. for this receiver is 26.5 kV at zero beam current (minimum brightness) operating at 220V a.c. The maximum E.H.T. voltage permissible in any operating circumstances must not exceed 29.0 kV. When checking the E.H.T., use the 'High Voltage Check' procedure in this manual using an accurate E.H.T. voltmeter.
- 2. The only source of X-RAY radiation in this receiver is the C.R.T. To prevent X-ray radiation, the replacement C.R.T. must be identical to the original fitted as specified in the Parts List.
- Some components used in this receiver have safety related characteristics preventing the C.R.T. from emitting X-ray radiation.

For continued safety, replacement component should only be made after referring the Product Safety Notice below.

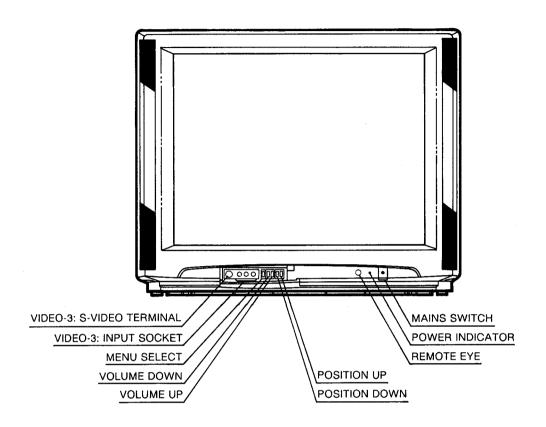
### SAFETY PRECAUTION

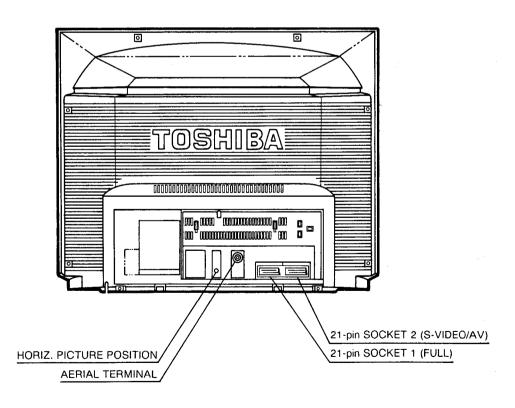
- This receiver has a nominal working E.H.T. voltage of 24.5 kV. Extreme caution should be exercised when working on the receiver with the back removed.
  - Do not attempt to service this receiver if you are not conversant with the precautions and procedures for working on high voltage equipment.
  - When handling or working on the C.R.T., always discharge the anode to the receiver chassis before removing the anode cap
  - The C.R.T., if broken, will violently expel glass fragments. Use shatter proof goggles and take extreme care while handling.
  - Do not hold the C.R.T. by the neck as this is a very dangerous practice.
- It is essential that to maintain the safety of the customer all cable forms be replaced exactly as supplied from factory.
- 3. A small part of the chassis used in this receiver is, when operating, at approximately half mains potential at all times. It is therefore essential in the interest of safety that when serving or connecting any test equipment the receiver should be supplied via a suitable isolating transformer of adequate rating.
- 4. Replace blown fuses within the receiver with the fuse specified in the parts list.
- 5. When replacing wires or components to terminals or tags, wind the leads around the terminal before soldering. When replacing safety components identified by the international hazard symbols on the circuit diagram and parts list, it must be a Toshiba approved type and must be mounted as the original.
- Keep wires away from high temperature components.

### PRODUCT SAFETY NOTICE

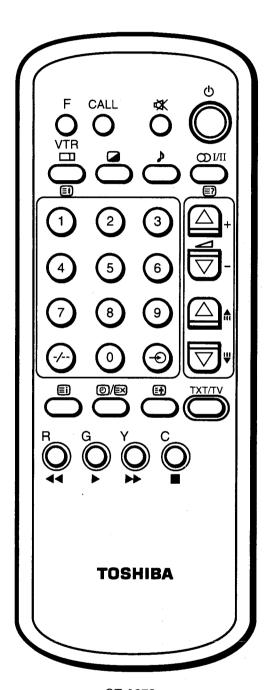
Many electrical and mechanical components in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the X-ray radiation protection afforded by them cannot necessarily be obtained by using replacements rated at higher voltages or wattage, etc. Components which have these special safety characteristics in this manual and its supplements are identified by the international hazard symbols on the schematic diagram and parts list. Before replacing any of these components read the parts list in this manual carefully. Substitute replacement components which do not have the same safety characteristics as specified in the parts list may create X-ray radiation.

# FRONT CONTROLS AND REAR VIEWS



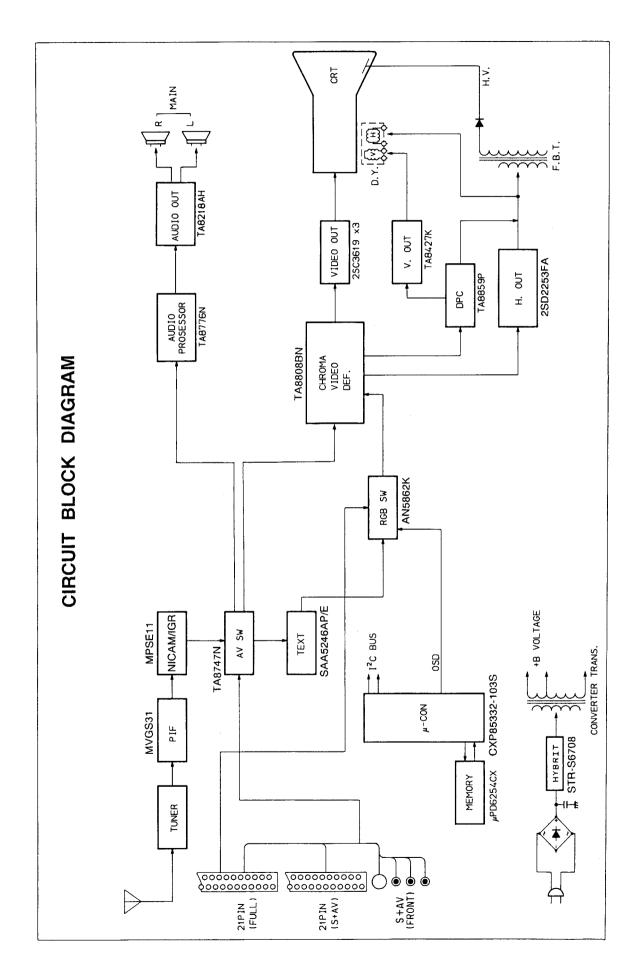


# REMOTE HAND HELD UNIT



KEY ASSIGNMENT

Ф	ON STAND-BY (F + ; VTR ON STAND-BY)			
\$₹	MUTE			
CALL	DISPLAY CALL			
F VTR	FUNCTION KEY FOR VTR (To push double for VTR & SERVICE Operation)			
□ ■	<tv mode=""> TUNING &amp; OTHER MENU <text mode=""> F-T-B (FULL, TOP, BOTTOM)</text></tv>			
<b></b>	PICTURE MENU			
<b></b>	SOUND MENU			
O 1/II ■	<tv mode=""> STEREO BILINGUAL <text mode=""> REVEAL / CONCEAL</text></tv>			
1~9,0.	TEN KEY			
-/	1 or 2 place			
-€	VIDEO INPUT (EXTERNAL INPUT SOURCE SW.)			
	VOLUME			
+	LEVEL PLUS (VOLUME, MENU)			
LEVEL MINUS (VOLUME, MENU)				
△, ⋒	UP (POSI., CH., TEXT PAGE)			
∇. ₩				
	T TXT/TV TEXT, MIX, TV MODE SW.			
	∰ HOLD			
TELE-	②/€X TIME DISPLAY (TV MODE) TEXT CLEAR (TEXT MODE)			
TEXT	■ INDEX			
	FLOF COLOUR KEY (4 key used)			
	R ; Red G ; Green			
	Y ; Yellow C ; Cyan			
	To push with F Key			
VITO	ტ ON STAND-BY ■ STOP			
VTR	► ······ PLAY			
	L ◀◀ ······ FF / CUE ►► ······ REV / REW			



WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

### INSTALLATION AND SERVICE ADJUSTMENTS

### **GENERAL INFORMATIONS**

All adjustments are thoroughly checked and corrected when the receiver leaves the factory. Therefore the receiver should operate normally and produce proper colour and B/W pictures upon installation. However, several minor adjustments may be required depending on the particular location in which the receiver is operated.

This receiver is shipped completely in cardboard carton. Carefully draw out the receiver from the carton and remove all packing materials. Plug the power cord into a convenient 220 volts 50 Hz AC two pin power outlet. Turn the receiver ON. Check and adjust all the customer controls such as BRIGHTNESS, CONTRAST and COLOUR Controls to obtain natural colour or B/W picture.

### **AUTOMATIC DEGAUSSING**

A degaussing coil is mounted around the picture tube so that external degaussing after moving the receiver is normally unnecessary, providing the receiver is properly degaussed upon installation. The degaussing coil operates for about 1 second after the power to the receiver is switched ON. If the set is moved or faced in a different direction, the power switch must be switched off at least one hour in order that the automatic degaussing circuit operates properly. Should the chassis or parts of the cabinet become magnetized to cause poor colour purity, use an external degaussing coil. Slowly move the degaussing coil around the faceplate of the picture tube, the sides and front of the receiver and slowly withdraw the coil to a distance of about 2 m before disconnecting it from AC source. If colour shading still persists, perform the COLOUR PURITY ADJUSTMENT and CONVERGENCE ADJUSTMENTS procedures.

### HIGH VOLTAGE CHECK

**CAUTION:** There is no HIGH VOLTAGE ADJUST-MENT on this chassis.

- Connect an accurate high voltage meter to the second anode of the picture tube.
- Turn on the receiver. Set the BRIGHTNESS and CONTRAST Controls to minimum (zero beam current).
- 3. High voltage will be measured below 29.0 kV.

### **HEIGHT ADJUSTMENT**

- 1. Receive the UK PHILIPS pattern, and set the contrast, colour and brightness to centre.
- Adjust HEIGHT Control (R351) so that white blocks at top and bottom of the picture are just masked.

### HORIZONTAL CENTRE ADJUSTMENT

- 1. Receive the UK PHILIPS pattern.
- Set the contrast and colour to centre, and the brightness to centre.
- Adjust H. CENTER USER Control (R452) so the pattern centre can be located at the screen centre.

### FOCUS ADJUSTMENT

Adjust FOCUS Control on FLYBACK TRANS. (T461) for well defined scanning lines in the centre area on the screen.

### **PAL MATRIX ADJUSTMENT**

- 1. Tune in the colour programme of the Philips pattern.
- Set the COLOUR Control to obtain the proper colour.
- If the PAL MATRIX adjustment is incorrect, the Venetian Blind would appear in the colour bars area. This case needs the adjustment.
- At the first, adjust DL PHASE ADJ. Coil (L551) to minimize the Venetian Blind.
- Next adjust 1H-DL ADJ. VR (R551) to minimize the Blind.
- If the Venetian Blind still remains, adjust 1H-DL PHASE ADJ. Coil (L551) to minimize the Blind again.
- 7. Repeat the item 5 and 6 procedures, adjust the R551 and L551 until the Blind does not appear.

### **CRT GREY SCALE ADJUSTMENT**

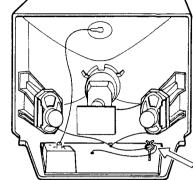
- 1. Tune in an active channel.
- Set the SERVICE SW. (S202) in the "H. LINE" position.
- Turn the SCREEN Control (on T461) fully counterclockwise.
- 4. By rotating the RED, GREEN and BLUE CUT OFF Controls (R557, R558, R559) to the mid position.
- Set the GREEN and BLUE DRIVE Controls (R252, R253) to the center.
- Rotate the SCREEN Control gradually clockwise until the first line appears slightly on the screen.
   Set the SCREEN Control to this position.
- Adjust the CUT OFF Controls to obtain the slightly lighted horizontal lines in the same levels of three colours (RED, GREEN and BLUE).
   The lines may look like white if the CUT OFF Controls are adjusted properly.
- 8. Set the SERVICE SW. (S202) in the "RECEIVE" position.
- Set the CONTRAST and COLOUR Controls to minimum, and BRIGHTNESS Control to the maximum
- 10. Adjust the BLUE and GREEN DRIVE Controls (R252/R253) to obtain proper white-balancel picture in high light areas.
- 11. Set the BRIGHTNESS and CONTRAST Controls to obtain dark grey raster. Then check the white balance in low brightness. If the white balance is not proper, retouch the CUT OFF Controls and DRIVE Controls to obtain a good white balance in both low and high light areas.

### SUB-BRIGHTNESS ADJUSTMENT

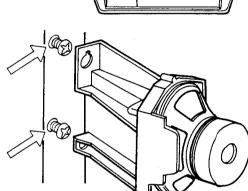
- 1. Tune in a colour programme.
- 2. Set the CONTRAST Control to the minimum and the BRIGHTNESS Control to the centre.
- 3. Set the COLOUR Control to the centre.
- 4. Set the SUB-BRIGHT. Control (R255) to the centre and leave the receiver for five minutes in this state.
- 5. Watching the picture well, adjust the SUB-BRIGHT. Control in the position where the picture does not show evidence of blooming in high bright area and not appear too dark in low bright portion.
- Check the proper picture variation by rotating the CONTRAST and BRIGHTNESS Controls to both extremes.
- 7. If the picture does not appear dark with the CONTRAST and BRIGHTNESS Controls turned to the minimum, or not appear bright with the controls turned to the maximum, adjust the SUB-BRIGHT. Control again for the acceptable picture.

# HOW TO MAKE THE CHASSIS STAND FOR REPAIR OF THE 2835DB (typical) model

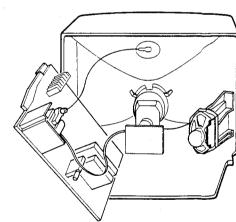
1. Remove the wire set for the loud speaker from the holder.



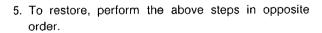
2. Remove the horn speaker unit (unscrew the fixing screws).

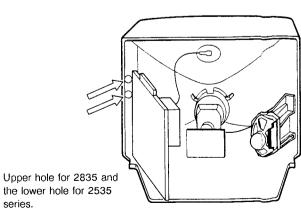


3. Lift up the chassis in such manner that it stands against the inner side surface of the front mask.



4. Using the screws which have been removed when disconnecting the front mask and the back cover, screw the chassis to the side of the front mask.





series.

### ADJUSTMENT METHOD FOR SERVICING

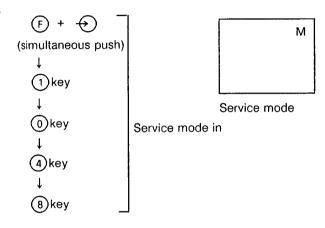
### 1. OUTLINE

Since each IC used is of  $I^2C$  bus control type, readjustment of the TVs also needs adjustment through  $I^2C$  bus control.

In the service mode, sub-bright, deflection system sub-adjustments, picture system sub-adjustments can be made easily with user remote control unit.

### 2. SERVICE MODE OPERATION

### 2-1. How to Enter the Service Mode



### 2-2. How to Exit from the Service Mode

Exit the service mode by turning the power on/off with the remote control.

### 3. ADJUSTMENT IN THE SERVICE MODE

### 3-1. Service Mode Level Adjustments

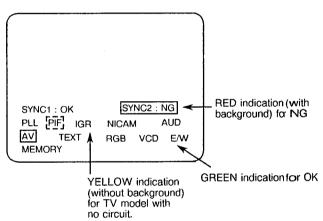
- (2) Adjust with the level UP/DN (VOL UP/DN key) key.

### 3-2. Other Service Mode Adjustments

F + 2 key (simultaneous push) cut off:
(NO VERTICAL DEFLECTION) ON/OFF

### 4. SELF CHECK

- (1) Indicates sync signal and acknowledgement of each IC.
- (2) Example of display on screen



### (3) Operation:

① TV gets into service mode with key operation;

$$\boxed{\text{F}} + \bigodot$$
  $\rightarrow \textcircled{1}$  key  $\rightarrow \textcircled{0}$  key  $\rightarrow \textcircled{4}$  key  $\rightarrow \textcircled{8}$  k ey

② TV indicates screen with (F) + (4) key.

### 5. SUB DATA ADDITIONAL DESCRIPTION

ITEM No.	Symbol	Description
15	LVE	L-SECAM output level.
16	RFA	RF AGC
17	HIT '	V amplitude adjustment.

ITEM No.	Symbol	Description
18	LIN	V linearity correction 1.
		Linearity
		Linearity balance between top and bottom screen.
19	VSC	V linearity correction 2.
·		Linearity
		Linearity balance between top/bottom and center.
20	VPC	V picture position adjustment.
21	VCP	Setting of amount of V amplitude correction against variation of screen brightness.
22	WID	H amplitude adjustment.

ITEM No.	Symbol	Description
23	DPC	H pin-cushion distortion correction.
24	CNR	H pin-cushion distortion correction at four corners.
25	KEY	Pedestal distortion correction.
26	НСР	Setting of amount of H amplitude correction against variation of screen brightness.
27	VMC	V linearity correction.  Linearity balance at 1/4, 3/4 areas from top.  - 0 +  Linearity

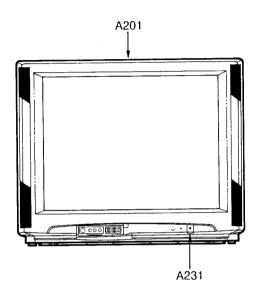
### 6. ROM DATA LIST FOR IIC BUS CONTROL

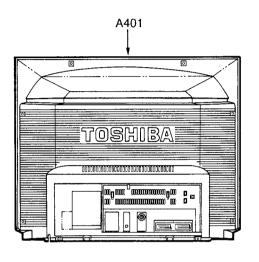
(Reference Value)

ITEM No.	Symbol	Comment	· Data
11	M00	MODE 0	39
12	M01	MODE 1	16
13	M02	MODE 2	00
14	M03	MODE 3	11
15	LVE	L-SECAM OUTPUT LEVEL	-
16	RFA	RF AGC	_
17	HIT	HEIGHT	* 30
18	LIN	V. LINEARITY	32
19	VSC	V. S-CORRECTION	32
20	VPC	V. POSITION	* 07
21	VCP	V. COMPENSATION	30
22	WID	H. WIDTH	* 22
23	DPC	PARABOLA	* 23
24	CNR	DPC CORNER	32
25	KEY	KEYSTONE	09
26	HCP	H. COMPENSATION	10
27	VMC	V. M-CORRECTION	52
28	SHI	16:9 SUB HEIGHT	02
29	SLI	16:9 SUB V. LINEARITY	32
30	svs	16:9 SUB V. S-CORRECTION	17
31	SDP	16:9 SUB DPC	21
32	SCN	16:9 SUB CORNER	32
33	TON	BAZOOKA TONE MID-LEVEL	36
34	NON	NICAM ON LEVEL	05
35	NOF	NICAM OFF LEVEL	16
36	ION	IGR ON LEVEL	16
37	IOF	IGR OFF LEVEL	8
38	124	IGR K24	16
39	139	IGR K39	12
40	N39	NICAM K39	16
41	149	IGR K14, K19	32

<sup>\*</sup> Mark items should be adjusted.

# CABINET REPLACEMENT PARTS LIST





Location No.	Part No.	Description
A201	23416853	Front Cover
A220	23416835	Speaker Box (Right)
A221	23448955	Piece (Speaker Cover)
A225	23416834	Speaker Box (Left)
A226	23448955	Piece (Speaker Cover)
A231	23443775	Button, POWER
A241	70368125	Push Catch for Door
A242	23425536	Door
A401	23425494	Back Cover
A411	23568843	Label, Model No., B/C

## CHASSIS REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

**CAUTION**: The international hazard symbols in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. "Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 2. Do not degrade the safety of the receiver through improper servicing.

NOTICE: The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.

### **ABBREVIATIONS:**

Capacitors....... CD : Ceramic Disk PF : Plastic Film EL : Electrolytic Resistors....... CF : Carbon Film CC : Carbon Composition MF : Metal Film OMF : Oxide Metal Film VR : Variable Resistor FR : Fusible Resistor

(All CD and PF capacitors are ±5%, 50V and all resistors, ±5%, 1/6W unless otherwise noted.)

Location No.	Part No.	Description
CAPACITO	RS	
C182	24232103	CD, 0.01μF, +80%, -20%
C183	24797229	EL, 2.2μF, ±20%, 50V
C185	24232103	CD, 0.01μF, +80%, -20%
C188	24797010	EL, 1μF, ±20%, 50V
C189	24232103	CD, 0.01μF, +80%, -20%
C190	24232103	CD, 0.01μF, +80%, -20%
C193	24797229	EL, 2.2μF, ±20%, 50V
C194	24797229	EL, 2.2μF, ±20%, 50V
C202	24795101	EL, 100µF, ±20%, 25V
C203	24232103	CD, 0.01μF, +80%, -20%
C204	24797220	EL, 22μF, ±20%, 50V
C205	24797478	EL, 0.47μF, ±20%, 50V
C206	24232103	CD, 0.01μF, +80%, -20%
C207	24794100	EL, 10μF, ±20%, 16V
C208	24232103	CD, 0.01μF, +80%, -20%
C209	24232103	CD, 0.01μF, +80%, –20%
C210	24797100	EL, 10μF, ±20%, 50V
C211	24232103	CD, 0.01µF, +80%, -20%
C212	24232103	CD, 0.01μF, +80%, -20%
C213	24232103	CD, 0.01µF, +80%, -20%
C214	24436330	CD, 33pF
C215	24436560	CD, 56pF
C240	24797478	EL, 0.47μF, ±20%, 50V
C301	24085944	EL, 2.2μF, ±20%, 50V,
		Non-Polar
C302	24212152	CD, 1500pF, ±10%
C303	24214221	CD, 220pF, ±10%, 500V
C304	24590102	PF, 1000pF
C305	24617915	EL, 1μF, ±10%, 50V
C306	24667472	EL, 4700μF, ±20%, 25V
C307	24232103	CD, 0.01µF, +80%, -20%
C308	24693473	PF, 0.047μF, 100V
C310	24765102	EL, 1000µF, ±20%, 35V
C311	24214151	CD, 150pF, ±10%, 500V
C313	24082053	PF, 0.1μF, 100V
C314	24591563	PF, 0.056μF
C315	24590104	PF, 0.1μF
C316	24538474	PF, 0.47μF
C317	24617926	, , , , , , , , , , , , , , , , , , , ,
C318	24796221	EL, 220μF, ±20%, 35V

Location No.	Part No.	Description
C319	24212102	
C321	24591183	PF, 0.018μF
C322	24617912	EL, $2.2\mu$ F, $\pm 10\%$ , 50V
C323	24538224	PF, 0.22μF
C324	24590683	PF, 0.068μF
C325	24232103	CD, 0.01µF, +80%, -20%
C326		PF, 0.47μ <b>F</b>
C378	24590104	PF, 0.1μF
C401	24617920	EL, 120μF, ±20%, 25V
C402	24353241	CD, 240pF
C403	24797339	EL, 3.3μF, ±20%, 50V
C405	24590183	PF, 0.018μF
C406	24590183	PF, 0.018μF
C407	24590273	PF, 0.027 <i>μ</i> F
C408	24794221	
C409	24232103	CD, 0.01µF, +80%, -20%
C410	24082261	PF, 5600pF, 100V
C411	24435330	CD, 33pF, 500V
C412		PF, 1800pF
C413	24214391	CD, 390pF, ±10%, 500V
C414	24212471	CD, 470pF, ±10%
C416	24709100	,,,
C417	24214821	,,,
C421	24095755	, , , , , , , , , , , , , , , , , , , ,
C422	24829473	, ,
<b>△</b> C423	24095755	PF, 0.47 <i>μ</i> F, 200V
C430	24538474	
<b>△</b> C440	24082349	,
C441	24214221	CD, 220pF, ±10%, 500V
C443	24214221	CD, 220pF, ±10%, 500V
C444	24082287	PF, 5100pF, ±3%, 1800¥
C445	24095903	PF, 0.056μF, ±10%, 250/
C446	24095887	PF, 0.01μF, ±3%, 630V
C447	24700479	1,
C448	24640962	EL, 33µF, ±20%, 200V
C449	24667102	EL, 1000μF, ±20%, 25V
C450	24794471	
<b>△ C463</b>	24212222	CD, 2200pF, ±10%
C464	24082005	PF, 0.75μF, 200V
C465		PF, 0.75μF, 200V
C466	24095751	PF, 0.33μF, 200V

Location No.	Part No.	Description
C470	24794220	EL, 22μF, ±20%, 16V
C471	24538474	PF, 0.47 <i>μ</i> F
C501	24794331	EL, 330μF, ±20%, 16V
C502		CD, 180pF, ±10%
C503		CD, 180pF
C505		PF, 0.027μF
C507		PF, 0.01μF EL, 2.2μF, ±20%, 50V,
C508	24000944	Non-Polar
C509	24353330	
C510	24232103	CD, 0.01µF, +80%, -20%
C511	24232103	CD, 0.01µF, +80%, -20%
C512	24353200	
C513	24232103	CD, 0.01µF, +80%, -20%
C515		EL, 22μF, ±20%, 50V
C516	24590104	
C517	24590104	
C518		CD, 0.01μF, +80%, -20%
C520 C521		EL, 0.47μF, ±20%, 50V EL, 0.47μF, 50V
C521		EL, 0.47μF, 50V EL, 0.47μF, 50V
C522		EL, 0.47µF, 50V
C524		CD, 0.01µF, +80%, -20%
C525	24436820	
C526	24436820	CD, 82pF
C527	24436820	CD, 82pF
C531		EL, 10μF, ±20%, 16V
C532		CD, 390pF
C533		CD, 120pF
C534		CD, 100pF
C535		EL, 10μF, ±20%, 50V
C536	24797478	
C537 C540		EL, 470μF, ±20%, 16V CD, 220pF
C540 C541		CD, 220pF
C542	24436221	CD, 220pF
C601		PF, 0.039μF
C602		PF, 0.01μF
C603	24590393	PF, 0.039μF
C604	24590393	PF, 0.039μF
C608		EL, 10μF, ±20%, 16V
C609		EL, 1μF, ±20%, 50V
C610	24797010	
C611	24794100	EL, 10μF, ±20%, 16V
C612	24794100	
C613	24794100	· · · · · · · · · · · · · · · · · · ·
C614 C615	24794101 24232103	EL, 100μF, ±20%, 16V CD, 0.01μF, +80%, –20%
C616	24794471	EL, 470μF, ±20%, 16V
C617	24232103	CD, 0.01μF, +80%, -20%
C618	24794100	EL, 10µF, ±20%, 16V
C619	24793221	EL, 220μF, ±20%, 10V
C622	24205479	EL, 4.7μF, ±20%, 35V
C623	24590562	· · · · · · · · · · · · · · · · · · ·
C624	24794100	
C625	24797339	EL, 3.3μF, ±20%, 50V
C626	24797470	
C627	24473470	
C628	24797339	
C629	24794100	
C631	24232103 24797478	
C641 C660		EL, 0.47μF, ±20%, 50V EL, 0.47μF, ±20%, 50V
C661		EL, 10μF, ±20%, 16V
		, ,, · · ·

Location	Part No.	Description
No.	, 4, , , , ,	200011ption
C662	24473470	CD, 47pF
C663	24473470	EL, 3.3μF, ±20%, 50V
C664	24797100	EL, 10µF, ±20%, 50V
C665	24590104	PF, 0.1μF
C666	24590104	PF, 0.1μF
C667	24205479	EL, 4.7μF, ±20%, 35V
C668	24793221	EL, 220µF, ±20%, 10V
C672	24667470	EL, 47μF, ±20%, 25V
C673	24797010	EL, 1μF, ±20%, 50V
C674	24590103	PF, 0.01μF
C675	24797010	EL, 1μF, ±20%, 50V
C677	24590103	PF, 0.01μF
C678	24795470	EL, 47μF, ±20%, 25V
C679	24797010	EL, 1μF, ±20%, 50V
C680	24795470	EL, 47μF, ±20%, 25V
C681	24795470	EL, 47μF, ±20%, 25V
C682	24796101	EL, 100μF, ±20%, 35V
C683	24796102	EL, 1000μF, ±20%, 35V
C684	24538124	PF, 0.12μF
C687	24668102	EL, 1000μF, ±20%, 35V
C688	24538124	PF, 0.12μF
<b>△ C801</b>	24082318	PF, 0.1μF, ±20%, AC250V
<b>△ C802</b>	24094655	CD, 1000pF, ±20%, AC400V
△ C803	24094655	CD, 1000pF, ±20%, AC400V
<b>△ C804</b>	24082318	PF, 0.1μF, ±20%, AC250V
C807	24092281	CD, 4700pF, ±20%, AC250V
C808 C809	24092281 24086037	CD, 4700pF, ±20%, AC250V
C810	24060037	EL, 270μF, ±20%, 400V EL, 330μF, ±20%, 25V
C811	24214471	CD, 470pF, ±10%, 500V
C812	24676220	EL, 22µF, ±20%, 100V
C813	24590222	PF, 2200pF
C814	24214471	CD, 470pF, ±10%, 500V
C815	24095931	PF, 2200pF, 1250V
C816	24795470	EL, 47μF, ±20%, 25V
C817	24092341	CD, 470pF, ±10%, 2kV
C818	24214471	CD, 470pF, ±10%, 500V
C819	24797470	EL, 47μF, ±20%, 50V
C820	24794470	EL, 47μF, ±20%, 16V
C827	24794471	EL, 470µF, ±20%, 16V
C828	24212101	CD, 100pF, ±10%
C829	24796222	EL, 2200μF, ±20%, 35V
C830	24092337	CD, 220pF, ±10%, 2kV
C831	24086953	EL, 220μF, ±20%, 160V
C833	24797100	EL, 10μF, ±20%, 50V
C835	24797479	EL, 4.7μF, ±20%, 50V
C836	24797100	EL, 10μF, ±20%, 50V
C837	24797100	EL, 10μF, ±20%, 50V
C840	24214471	CD, 470pF, ±10%, 500V
C844	24094656	CD, 2200pF, ±20%, AC;  0V
C846	24590104	PF, 0.1μF
C849	24214471	CD, 470pF, ±10%, 500V
C901 C902	24700100 24095923	EL, 10µF, ±20%, 250V
C902 CA01	24095923	PF, 4700pF, 1250V CD, 100pF, ±10%
CA01 CA02	24474101	CD, 100pF, ±10% CD, 100pF, ±10%
CA02	24474101	CD, 100pF, ±10%
CA03 CA09	24774101	EL, 0.47μF, ±20%, 50V
CA10	24212102	CD, 1000pF, ±10%
CA11	24212102	CD, 1000pF, ±10%
CA12	24794102	EL, 1000μF, ±20%, 16V
CA13	24794100	EL, 10μF, ±20%, 16V
CA15	24590104	PF, 0.1μF
CA16	24797100	EL, 10µF, ±20%, 50V
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Location No.	Part No.	Description
CA21	24232103	CD, 0.01μF, +80%, -20%
CA22	24797010	
CA29	24232103	CD, 0.01μF, +80%, -20%
CA31	24473300	
CA32	24473300	CD, 30pF
CA33	24212102	CD, 1000pF, ±10%
- CA36		PF, 0.1μF
CA90		PF, 0.47μF
CA91	24212102	
CA92	24590104	
CB01	24474101	
CB09	24794330 24797010	EL, 33µF, ±20%, 16V EL, 1µF, ±20%, 50V
CB10 CB11	24436181	CD, 180pF
CB12	24212561	CD, 560pF, ±10%
CB13	24212472	
CD01	24796220	
CD11	24676339	EL, 3.3μF, ±20%, 100V
CF01	24232103	-
CF02	24797100	
CF03	24232103	· · · · · · · · · · · · · · · · · · ·
CF04	24797100	
CF05	24212102	CD, 1000pF, ±10%
CF06	24353150	
CF07	24232103	
CF08	24590104 24085944	•
CF09	24000944	Non-Polar
CF10	24794330	
CF11	24232103	
CF16	24353080	
CF17	24797100	
CF18	24590104	
CF19	24794101	
CF20	24473220	
CN01	24436270	•
CN02	24436270	•
CN04	24436101 24232103	
CN16 CV01	24232103	
CV02	24206010	EL, 1μF, 50V
CV03		EL, 10μF, ±20%, 50V
CV04	24206010	EL, 1μF, 50V
CV05	24232103	CD, 0.01μF, +80%, -20%
CV06	24797100	EL, 10μF, ±20%, 50V
CV07	24797010	EL, 1μF, ±20%, 50V
CV08	24797010	EL, 1μF, ±20%, 50V
CV09	24232103	CD, 0.01μF, +80%, -20%
CV10	24797100	EL, 10μF, ±20%, 50V
CV11	24797100	EL, 10μF, ±20%, 50V
CV12	24797100	EL, 10µF, ±20%, 50V
CV13	24232103 24232103	CD, 0.01μF, +80%, -20% CD, 0.01μF, +80%, -20%
CV14 CV15	24232103	EL, 10μF, ±20%, 50V
CV16	24797100	EL, 10µF, ±20%, 50V
CV17	24797100	EL, 10μF, ±20%, 50V
CV18	24797220	EL, 22μF, ±20%, 50V
CV19	24232103	CD, 0.01μF, +80%, -20%
CV20	24212271	CD, 270pF, ±10%
CV21	24212271	CD, 270pF, ±10%
CV23	24793471	EL, 470μF, ±20%, 10V
CV24	24212271	
CV25		CD, 270pF, ±10%
CV26	24212271	CD, 270pF, ±10%
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Location No.	Part No.	Description
CV27	24212271	CD, 270pF, ±10%
CV31	24793471	EL, 470μF, ±20%, 10V
CV32	24797101	EL, 100μF, ±20%, 50V
CV33	24085981	EL, 10μF, ±20%, 16V,
		Non-Polar
CV34	24797100	EL, 10μF, ±20%, 50V
CV35	24085981	EL, 10μF, ±20%, 16V,
		Non-Polar
CV36	24797100	EL, 10µF, ±20%, 50V
CV41	24232103	CD, 0.01μF, +80%, -20%
CV46 CV72	24794101 24794100	EL, 100μF, ±20%, 16V EL, 10μF, ±20%, 16V
CV72	24794100	EL, 10μΓ, ±20%, 16V
CW01	24797100	EL, 10μF, ±20%, 50V
CW02	24232103	CD, 0.01μF, +80%, –20%
CW05	24232103	The state of the s
CX02	24797478	EL, 0.47μF, ±20%, 50V
CX03	24797478	EL, 0.47μF, ±20%, 50V
CX04	24797478	
CX05	24206010	
CX06	24206010	
CX07	24206010	EL, 1μF, 50V
CX08 CX09	24797100 24797010	EL, 10μF, ±20%, 50V EL, 1μF, ±20%, 50V
CX10	24797010	
CX10	24797010	-
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RESISTORS		
R208	24366152	CF, 1500 ohm
R212	24366103	
R213	24366103	
R214	24366182	
R215	24366152	•
R216		CF, 33k ohm
R217 R218	24366101	CF, 100 ohm CF, 4700 ohm
R219	24366472	CF, 4700 ohm
R220		CF, 4760 Olim CF, 47k ohm
R221		CF, 47k ohm
R222		CF, 47k ohm
R223	24366472	
R224	24366682	
R228	24366182	CF, 1800 ohm
R231	24366102	CF, 1k ohm
R233	24366152	CF, 1500 ohm
R237	24366561	
R242	24366183	CF, 18k ohm CF, 10k ohm
R243	24366103	7
R244 R245	24366203 24366622	CF, 20k ohm CF, 6200 ohm
R245	24366103	CF, 10k ohm
R247	24366101	·
R252	24066597	VR, 1k ohm, 1/10W
R253	24066597	VR, 1k ohm, 1/10W
R255	24066601	VR, 20k ohm, 1/10W
R260	24366333	CF, 33k ohm
R261	24366153	CF, 15k ohm
R262	24366153	CF, 15k ohm
R266	24366153	· · · · · · · · · · · · · · · · · · ·
R267	24366153 24366184	· · · · · · · · · · · · · · · · · · ·
R268 R269	24366101	CF, 180k ohm CF, 100 ohm
R270	24366822	· · · · · · · · · · · · · · · · · · ·
R282	24366101	-

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Location No.	Part No.	Description
140.		
R301		CF, 220 ohm
R302		CF, 270k ohm
R303		CF, 39k ohm
R304		CF, 39k ohm CF, 150 ohm
R305		
R306	24366563	CF, 56k ohm CF, 330k ohm
R307 R308		CF, 1k ohm
R309		OMF, 470 ohm, 2W
R311	24366473	CF, 47k ohm
R312		CF, 200k ohm
R313		CF, 100k ohm
R314	24366105	CF, 1M ohm
R315	24366155	CF, 1.5M ohm
R316	24366154	CF, 150k ohm
R317		CF, 10k ohm
R318		CF, 100 ohm
R319	24366101	CF, 100 ohm
R320		CF, 100 ohm CF, 1k ohm
R321 R322		
R322 R323	24321133 24322688	OMF, 1.5 ohm, 1/2W OMF, 0.68 ohm, 1W
ÆR327		OMF, 5.6 ohm, 2W
R329		
R334	24383751	CF, 22k ohm OMF, 750 ohm, 2W
R340		OMF, 390 ohm, 1W
R342	24366103	CF, 10k ohm
R343	24366103	
R344		CF, 3900 ohm
R345		CF, 10k ohm
R346		CF, 10k ohm
R402		CF, 27k ohm
R403	24366272 24552472	CF, 2700 ohm OMF, 4700 ohm, 1/2W
R404 R405	24332472	CF, 430 ohm
R407		CF, 150 ohm
R408		CF, 5600 ohm
R409		CF, 200k ohm
R410	24552472	OMF, 4700 ohm, 1/2W
R411	24366561	CF, 560 ohm
R413	24366151	CF, 150 ohm
R415		OMF, 2700 ohm, 1W
R416		Cement, 5600 ohm, 5W
R421	24366104	
R430	24366272	CF, 2700 ohm
R431		CF, 1k ohm
R432		CF, 47k ohm CF, 33k ohm
R433	24366333	CF, 12k ohm
R434 R440		OMF, 10k ohm, 1/2W
R441	24381273	
R442	24382102	
R444	24322398	OMF, 0.39 ohm, 1W
<b>△R446</b>	24533151	
<b>△R448</b>	24338338	
R452	24069547	
R470	24322568	OMF, 0.56 ohm, 1W
R471	24366101	•
R472	24376393	CF, 39k ohm, 1/2W
R474	24366331	CF, 330 ohm
R475		CF, 1k ohm
R477		CF, 15k ohm CF, 560 ohm
R501 R502		CF, 330k ohm
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Location	Part No	Description
No.	r art ito.	Bosonption
R504	24366471	CF, 470 ohm
R507	24366822	CF, 8200 ohm
R508	24366561	
R509	24366203	
R511	24366202	
R512	24366182	CF, 1800 ohm
R513	24366122	
R514		CF, 5600 ohm
R515	24366221	· ·
R516	24366221	
R517		CF, 220 ohm
R518	24366475	
R520 R521	24366102 24366562	•
R521	24366185	
R529	24366154	
R533	24366162	
R534		CF, 100 ohm
R535	24366471	
R536	24366103	CF, 10k ohm
R537	24366162	CF, 1600 ohm
R538	24366471	
R539	24366162	1
R541	24366821	
R542	24366201	
R543	24366103	
R544		CF, 100 ohm CF, 1k ohm
R547 R548	24366102 24366102	
R549	24366102	
R551	24066955	VR, 1k ohm, 1/10W
R557	24066600	VR, 10k ohm, 1/10W
R558	24066600	VR, 10k ohm, 1/10W
R559	24066600	VR, 10k ohm, 1/10W
R565	24366560	CF, 56 ohm
R566	24366560	CF, 56 ohm
R567	24366560	CF, 56 ohm
R568	24366102	•
R570	24366272	
R571	24366272	
R572	24366272	
R580	24366391	CF, 390 ohm CF, 330 ohm
R581 R591	24366331 24383153	OMF, 15k ohm, 2W
R592	24383153	OMF, 15k ohm, 2W
R593	24383153	OMF, 15k ohm, 2W
R602	24366101	CF, 100 ohm
R603	24366101	CF, 100 ohm
R604	24366394	CF, 390k ohm
R608	24382680	OMF, 68 ohm, 1W
R612	24366221	CF, 220 ohm
R614	24366472	CF, 4700 ohm
R616	24366102	CF, 1k ohm
R617	24366102	CF, 1k ohm
R618	24366303	CF, 30k ohm
R619	24366682	
R620 R622	24366103	CF, 10k ohm CF, 10k ohm
R623	24366103 24366103	1
R625	24366103	CF, 10k ohm
R626	24366682	CF, 6800 ohm
R627	24366303	
R628	24366273	CF, 27k ohm
R641	24366103	CF, 10k ohm
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	Location	Part No	Description		
Ī	No.	rait IVO.	Description		
	Doc-		05 4000 :		
	R660		CF, 4300 ohm		
- 1	R661		CF, 10k ohm		
	R662	24366103	CF, 10k ohm CF, 100k ohm		
	R663	24366104	CF, 100k ohm		
	R664		CF, 100k ohm		
	R665	24366103	CF, 10k ohm CF, 10k ohm		
	R666	24366103	CF, 10k ohm		
	R668	24300103	CF, 10k ohm CF, 9100 ohm		
	R669	24300912	CF, 9100 offin		
	R673 R674	24366102	CF, 1k ohm CF, 1k ohm		
			CF, 1k ohm		
	R682	24366229	CF, 10k ohm CF, 2.2 ohm		
			CF, 2.2 ohm		
	R687	24366103	CF, 10k ohm		
	R688	24366104	CF, 10k ohm CF, 100k ohm		
			CF, 10k ohm		
	<b>△ R801</b>		Metal Glazed Resistor,		
			5.6M ohm, 1/2W		
	R803	24382683	OMF, 68k ohm, 1W		
	R805	24366101	CF, 100 ohm		
į	R810		CF, 1200 ohm		
1	R812	24552103	OMF, 10k ohm, 1/2W		
	R813	24366272	CF, 2700 ohm		
1			OMF, 1k ohm, 1/2W		
	R816	24382180	OMF, 18 ohm, 1W		
	R817	24322278	OMF, 0.27 ohm, 1W		
			OMF, 8.2 ohm, 1/2W		
1	R819	24366472	CF, 4700 ohm		
i	R820		CF, 100 ohm		
			CF, 4700 ohm		
ı	R832	24321228	OMF, 0.22 ohm, 1/2W CF, 680 ohm		
	R842	24366681	CF, 680 ohm		
			CF, 820 ohm		
1	R848	24552332	OMF, 3300 ohm, 1/2W CF, 680 ohm		
	R860		CF, 1k ohm		
ı	R865 R866		CF, 680 ohm CF, 470 ohm		
	R867		CF, 470 onm CF, 10k ohm		
	R868				
	R870	24383183	CF, 4700 ohm OMF, 18k ohm, 2W		
	R872		Cement, 3.3 ohm, 10W		
1	△ R878		FR, 56 ohm, 1/2W		
1	R879		CF, 4700 ohm		
-	<b>⚠</b> R884		FR, 12 ohm, 1/2W		
-	△ R890		PTC Thermistor, 18 ohm,		
			±20%, 290V		
	R893	24366103	CF, 10k ohm		
	R901	24946272	•		
	R902	24946272	CC, 2700 ohm, ±10%, 1/2W		
	R903	24946272	CC, 2700 ohm, ±10%, 1/2W		
	<b>⚠</b> R920		FR, 1.5 ohm, 2W		
	RA01		CF, 22k ohm		
	RA02	24366102	CF, 1k ohm		
	RA03		CF, 10k ohm		
	RA05		CF, 10k ohm		
	RA06		CF, 10k ohm		
	RA07		CF, 2200 ohm		
İ	RA10		CF, 47k ohm		
	RA11	24366102	CF, 1k ohm		

Location	Part No.	Description
No.	Part No.	Description
	<del></del>	
RA12	24366103	CF, 10k ohm
RA13	24366103	- •
RA14	24366331	
RA16	24366101	
RA17	24366472	CF, 4700 ohm
RA18	24366101	CF, 100 ohm
RA19	24366102	CF, 1k ohm
RA20	24366331	CF, 330 ohm
RA21	24366331	
RA23	24366473	
RA24	24366162	CF, 1600 ohm
RA25	24366162	
RA26	24366162	
RA28	24366223	
RA29	24366562	CF, 5600 ohm
RA32	24366223	
RA33		CF, 10k ohm
RA34	24366223	
RA35	24366102	
RA36		CF, 22k ohm
RA40		CF, 22k ohm
RA41		CF, 22k ohm
RA60		CF, 3900 ohm
RA61		CF, 1k ohm
RA62		CF, 10k ohm
RA63		
		CF, 10k ohm
RA66		CF, 1k ohm CF, 15k ohm
RA67		
RA68	24366473	·
RA69	24366223	•
RA76	24366102	·
RA79	24366153	·
RA81	24366103	· · · · · · · · · · · · · · · · · · ·
RA84	24366392	1
RA85	24366392	·
RA86	24366472	•
RA87	24366472	
RA88		CF, 1k ohm
RA90	24366271	
RA92	24366102	
RA94	24366392	•
RA95	24366392	CF, 3900 ohm
RA97	24366332	CF, 3300 ohm
RA98	24366682	CF, 6800 ohm
RA99		
RB01	24366103	
RB02	24366332	CF, 3300 ohm
RB03		CF, 10k ohm
RB04	24366103	CF, 10k ohm
RB05	24366332	CF, 3300 ohm
RB06	24366333	CF, 33k ohm
RB10	24366182	
RB11	24366471	
RB12	24366333	CF, 33k ohm
RB13	24366564	
RB14	24366123	CF, 12k ohm
RB15	24366392	CF, 3900 ohm
RB16	24366392	
RB19	24366223	CF, 22k ohm
⚠ RD01		FR, 15 ohm, 1/2W
RD02	24323229	
RD03		CF, 5600 ohm
RD04	24552102	OMF, 1k ohm, 1/2W
RD05	24552332	
	002002	5, 5500 Omil, 1/244

Location		
No.	Part No.	Description
140.		
RD06	24366242	CF, 2400 ohm
RD07	24366273	CF, 27k ohm
RD08		CF, 110k ohm
RD09		CF, 15k ohm
RD10	24366153	CF, 15k ohm
RF01	24366332	CF, 3300 ohm
RF03	24366100	CF, 10 ohm
RF04	24366273	CF, 27k ohm CF, 4700 ohm
RF05	24366472	CF, 4700 ohm
RF06		CF, 10k ohm
RF07	24366103	CF, 10k ohm CF, 100 ohm
RF08		
RF09		CF, 1k ohm
RF12	24366103	CF, 10k ohm CF, 100 ohm
RF13		
RF14		CF, 100 ohm
RF15	24366392	CF, 3900 ohm CF, 10k ohm
RF16		
RF17	24366332	CF, 3300 ohm
RF18	24366682	CF, 6800 ohm CF, 100 ohm
RF19		
RF20		CF, 1k ohm
RF21	24366102	CF, 1k ohm
RF22		CF, 100 ohm
RF23	24366102	CF, 1k ohm
RN01	24366101	CF, 100 ohm
RN02		CF, 1500 ohm
RN08		CF, 10k ohm
RV01	24366101	CF, 100 ohm
RV02		CF, 1k ohm
RV03	24366472	CF, 4700 ohm
RV04	24366472	CF, 4700 ohm
RV05		CF, 100 ohm
RV06	24366102	CF, 1k ohm
RV07		CF, 100 ohm
RV08	24366102	CF, 1k ohm
RV09	24366104	CF, 100k ohm CF, 100 ohm
RV10	24300101	CF, 4700 ohm
RV11		
RV12	243004/2	CF, 4700 ohm
RV13		CF, 100 ohm
RV14	24300101	CF, 100 ohm
RV15		CF, 10k ohm CF, 100k ohm
RV16	24366104 24366223	· ·
RV17		
RV18	243004/3	CF, 47k ohm CF, 100 ohm
RV19	24366101	
RV20		
RV21		CF, 100 ohm CF, 100 ohm
RV22	24366101	CF, 470 ohm
RV23		
RV24	24002331	OMF, 330 ohm, 1/2W FR, 47 ohm, ±2%, 1/4W
<b>ARV25</b>		CF, 2200 ohm
RV26		CF, 2200 ohm
RV27 RV28		CF, 100k ohm
1		CF, 100k onm CF, 470 ohm
RV29 RV30		
RV30	24300102	CF, 1500 ohm CF, 91 ohm
RV31		CF, 91 ohm
RV32	24300310	CF 150 ohm
RV34	24300131	CF, 150 ohm CF, 100 ohm
RV36		CF, 100 dimi
RV37		CF, 100k Ohm
''*50	2-7000104	5. 7 100K 311111

Location	Part No	Description
No.	i dit ivo.	Description
D) (20	24266101	CF 100 ohm
RV39 RV40	24366101	CF, 100 ohm CF, 47 ohm
RV40		CF, 10k ohm
RV41	24300103	CF, 75 ohm
RV42 RV43		CF, 62 ohm
RV43		CF, 62 Ohm
RV44 RV45		CF, 62 ohm
RV45		CF, 100 ohm
RV47		OMF, 68 ohm, 1W
RV49	24366102	
RV60	24382560	
RV61	24366130	CF, 13 ohm
RV62	24366130	
RV63	24366130	
RV64	24366104	
RV65	24366104	
RV66	24366104	
RV67	24366104	
RV68	24366104	
RV69		CF, 100k ohm
RV71	24366101	CF, 100 ohm
RV72	24366103	
RV73		CF, 47 ohm
RV74	24366472	CF, 4700 ohm
RV75	24366472	
RV76	24366101	CF, 100 ohm
RV77	24366152	CF, 1500 ohm
RV78	24366103	CF, 10k ohm
RV79	24366101	
RV91	24366471	
RW01	24366223	CF, 22k ohm
RW02	24366333	
RW03	24366103	
RW04	24366223	
RW05	24366333	
RW06	24366103	,
RW07		OMF, 560 ohm, 1/2W
RW08		CF, 10k ohm
RW09	24366123	
RW10	24366103	CF, 10k ohm
RW11		CF, 10k ohm
RW12		CF, 12k ohm
RW13	24366103	CF, 10k ohm
RW14	24366123	CF, 12k ohm
RW15	24366123	•
RW21	24366101	CF, 100 ohm
RW22	24366101	CF, 100 ohm CF, 100 ohm
RW23	24366101	
RW24	24366101 24366681	CF, 100 ohm CF, 680 ohm
RW25		
RW26	24366681	•
RX01 RX02	24366102 24366101	CF, 1k ohm CF, 100 ohm
RX02	24366101	·
RX04	24366101	
RX05	24366103	
RX05	24366332	
RX07	24366122	•
RX08	24366122	
RX09	24366122	
RX10	24366101	
RX10	24366101	
RX13	24366332	
RX14	24366103	
7,7717	555 105	2.,

Location	Part No.	Description
No.		•
RX15	24366473	CF, 47k ohm
RX19	24366201	
RX20	24366152	
RX21		CF, 200 ohm
RX22	24366201	CF, 200 ohm
RX27	24366102	CF, 1k ohm
COILS & 1	<b>TRANSFOR</b>	MERS
L202	23289470	Coil, Peaking, TRF4470AF
L301	23103859	Coil (Ferrite Bead), TEM2011
L302	23289101	Coil, Peaking, TRF4101AF
L315	23238714	
L405	23221685	
L406	23103859	Coil (Ferrite Bead), TEM2011
L412	23221684	Coil, Choke, TLN3191D
L414	23103859	Coil (Ferrite Bead), TEM2011
L421	23211897	
L422	23221894	Coil, Choke, TLN3063
L441	23233948	Coil, Linearity, TLN2137G
<b>∆</b> L462		DY, Supplied with V901
L503	23238714	Coil, Peaking, TRF4100AJ
L551	23250972	Coil, 1H-Delay Matching,
		TRF5418D
L590	23289100	Coil, Peaking, TRF4100AF
L591	23289100	Coil, Peaking, TRF4100AF
L682	23289100	Coil, Peaking, TRF4100AF
L683	23238714	Coil, Peaking, TRF4100AJ
L684	23238714	Coil, Peaking, TRF4100AJ
L685	23238714	Coil, Peaking, TRF4100AJ
L686	23238714	Coil, Peaking, TRF4100AJ
L687	23103859	Coil (Ferrite Bead), TEM2011
L810	23103859	Coil (Ferrite Bead), TEM2011
L811	23103859	Coil (Ferrite Bead), TEM2011
L821	23222694	Coil, Width, TLN2026
L823	23221747	Coil, Choke, TRF9253D
L826	23221746	Coil, Choke, TLN3155D
L829	23103859	Coil (Ferrite Bead), TEM2011
L842	23103859	Coil (Ferrite Bead), TEM2011
L866	23289229	
L880	23222694	Coil, Width, TLN2026
<b>1 £ £ 1 1 1 1 1 1 1 1 1 1</b>	23200202	Coil, Degaussing, TSB-2329AF
LA01	23289109	Coil, Peaking, TRF41R0AF
LA12	23221803	Coil, Choke, TLN3040D
LB01	23262001	Coil, IF, TRF1166D
LD02	23221896	Coil, Choke, TLN3061
LF01	23238712	Coil, Peaking, TRF4150AJ
LF02	23238712	Coil, Peaking, TRF4150AJ
LF03	23238720	Coil, Peaking, TRF4339AJ
LF04	23238562	Coil, Peaking, TRF4109AJ
LF05	23238714	Coil, Peaking, TRF4100AJ
LF06	23238714	Coil, Peaking, TRF4100AJ
LF07	23238714	Coil, Peaking, TRF4100AJ
LF08	23238714	Coil, Peaking, TRF4100AJ
LF09	23238506	Coil, Peaking, TRF4229AJ
LF10	23238506	Coil, Peaking, TRF4229AJ
LF11	23103859	Coil (Ferrite Bead), TEM2011
LF12	23238506	Coil, Peaking, TRF4229AJ
LF13	23238714	Coil, Peaking, TRF4100AJ
LN01	23289120	Coil, Peaking, TRF4120AF
LV01	23289220	
<b>1401 1</b>	23224336	Transformer, Horiz. Drive,
		TLN1083
A 7401	00000454	
<b>1461 1</b>	23236454	Transformer, Flyback, TFB4117AR

Location	Part No.	Description
No.		
<b>△T80</b> 1	23211891	Line Filter, TRF3164
<b>△T803</b>	23217214	
		TPW3283AR
SEMICOND	UCTORS	
IC301	B0378560	IC, TA8427K
IC408	23319314	IC, μPC2412HF
IC501	B0384303	IC, TA8808BN
IC601	B0383935	IC, TA8776N
IC602	23319808	IC, M5218AP
IC603 IC670	23319808 B0377305	IC, M5218AP IC, TA8218AH
IC826	A8645131	-
IC835	23318299	-
ICA01	23904475	IC, CXP85332-103
ICA02	23319016	IC, μPD6254CX
ICA10	23319935	IC, MM1096BS
ICF02	23904139	IC, SAA5246AP/E
ICF03	23904315	IC, BR6265-12LL
ICV01 ICX01	B0383720	IC, TA8747N IC, AN5862K
Q205	23119139 A6317440	
Q208	A6317440	
Q213	A6317440	
Q240	A6317440	Transistor, 2SC1815-Y
Q302	B0384683	Transistor, TA8859AP
Q340	A6317440	
Q402	A678971D	Transistor, 2SC1569 FA-5
△ Q404	A6872801	Transistor, 2SD2253
Q430 Q470	A6317440 A6547250	Transistor, 2SC1815-Y Transistor, 2SA1320
Q505	A6363200	Transistor, 2SC3619
Q506	A6317440	
Q507	A6363200	
Q508	A6317440	Transistor, 2SC1815-Y
Q509	A6363200	
Q510	A6317440	
Q514	A6509127	
Q516 Q604	A6321265 A6534053	
Q608	A6010040	Transistor, RN2004
Q621	A6342206	Transistor, 2SC2878-A(TE)
Q622	A6342206	Transistor, 2SC2878-A(TE)
Q671	A6342206	Transistor, 2SC2878-A(TE)
Q673	A6342206	Transistor, 2SC2878-A(TE)
Q801	23904247	IC, STR-S6708
Ω802 ΔΩ827	23314141 A6907751	Transistor, 2SC3852 IC, S1854
Q828	A6317440	Transistor, 2SC1815-Y
Q831	A6317440	Transistor, 2SC1815-Y
Q836	A6534053	Transistor, 2SA1015-Y(TE)
Q861	23314141	Transistor, 2SC3852
Q870	A6333346	Transistor, 2SC2655-Y(C)
Q871	A6317440	Transistor, 2SC1815-Y
QA06	A6317440	Transistor, 2SC1815-Y
QB01	A6317440	Transistor, 2SC1815-Y
QB02 QB11	A6317440 A6317440	Transistor, 2SC1815-Y Transistor, 2SC1815-Y
QB12	A6534053	Transistor, 2SA1015-Y(TE)
QD01	A6625365	Transistor, 2SB688-O(BS)
QD02	A6317440	Transistor, 2SC1815-Y
OD03	A6317440	Transistor, 2SC1815-Y
QF04	A6317440	Transistor, 2SC1815-Y
QF05	A6317440	Transistor, 2SC1815-Y

Location	Dowt No.	Description
No.	Part No.	Description
QF06	A6317440	Transistor, 2SC1815-Y
QV03	A6342206	Transistor, 2SC2878-A(TE) Transistor, 2SC1959-Y(TE)
QV04	Δ6319311	Transistor 2SC1959-Y(TE)
	ACE240E2	Transistor, 2SA1015-Y(TE)
QV05		
QV06	A6534053	Transistor, 2SA1015-Y(TE)
QV07	A6317440	Transistor, 2SC1815-Y
QW01	A6534053	Transistor, 2SA1015-Y(TE)
QW02	A6534053 A6534053	Transistor, 2SA1015-Y(TE)
GM03	Δ6534053	Transistor, 2SA1015-Y(TE)
QW04		Transistor, 2SA1015-Y(TE)
i .		
QX02	A6534077	Transistor, 25A 10 15-Gh(1)
OX03	A6734585	Transistor, 2SC752GTM-O
QX04	A6317440	Transistor, 2SC1815-Y
QX05	A6317440	Transistor, 2SC1815-Y
QX06	A6317440	Transistor, 2SC1815-Y
QX07		Transistor, 2SC1815-Y
QX09	A6317440	
QX10	A6317440	Transistor, 2SC1815-Y
D108	23115878	
D201	A7150041	Diode, 1SS104
D203	23115599	Diode, 1N4148
D204	23115599	Diode, 1N4148
D205	23115599	Diode, 1N4148
	23115599	Diode, 1N4148
D246		·
D301	23118479	Diode, BYD33J
D302	23118479	Diode, BYD33J
D303	23115599	Diode, 1N4148
D304	23316291	Diode, Zener, UZ3.0BSB
D320	23118822	Diode, ERB12-02RK
D321	23118822	Diode, ERB12-02RK
D332	24000255	Diode, SC570A
	23316333	Diode, Zener, UZ12BSB
D401		Diode, Zener, UZ20BSB
D402	23316348	
D403	23316333	Diode, Zener, UZ12BSB
D406	23118479	· ·
D408	23118052	
D410	23316321	Diode, Zener, UZ8.2BSB
D471	A7801233	
D474	23316342	
D475	23316333	
		Diode, 1N4148
D590	23115599	- · · ·
D591	23115599	Diode, 1N4148
D592	23115599	
D594	23115599	
D595	23115599	Diode, 1N4148
D596	23115599	Diode, 1N4148
D601	23115599	
D640	23115599	•
D641	23115599	•
D670	23115599	•
D671	23115599	
D674	23115599	
D675	23115599	
D801	23118037	Diode, RBV406M LF-B
D802	23118479	
D803	23118479	Diode, BYD33J
D804		Diode, Zener, UZ6.8BSB
	23310313	
D805	20110000	Diode, BYD33J
D806		
D807		Diode, BYD33J
D808	23118479	
D809		Diode, Zener, UZ5.6BSB
D810		Diode, 1N4148
D811	23115599	Diode, 1N4148
1		

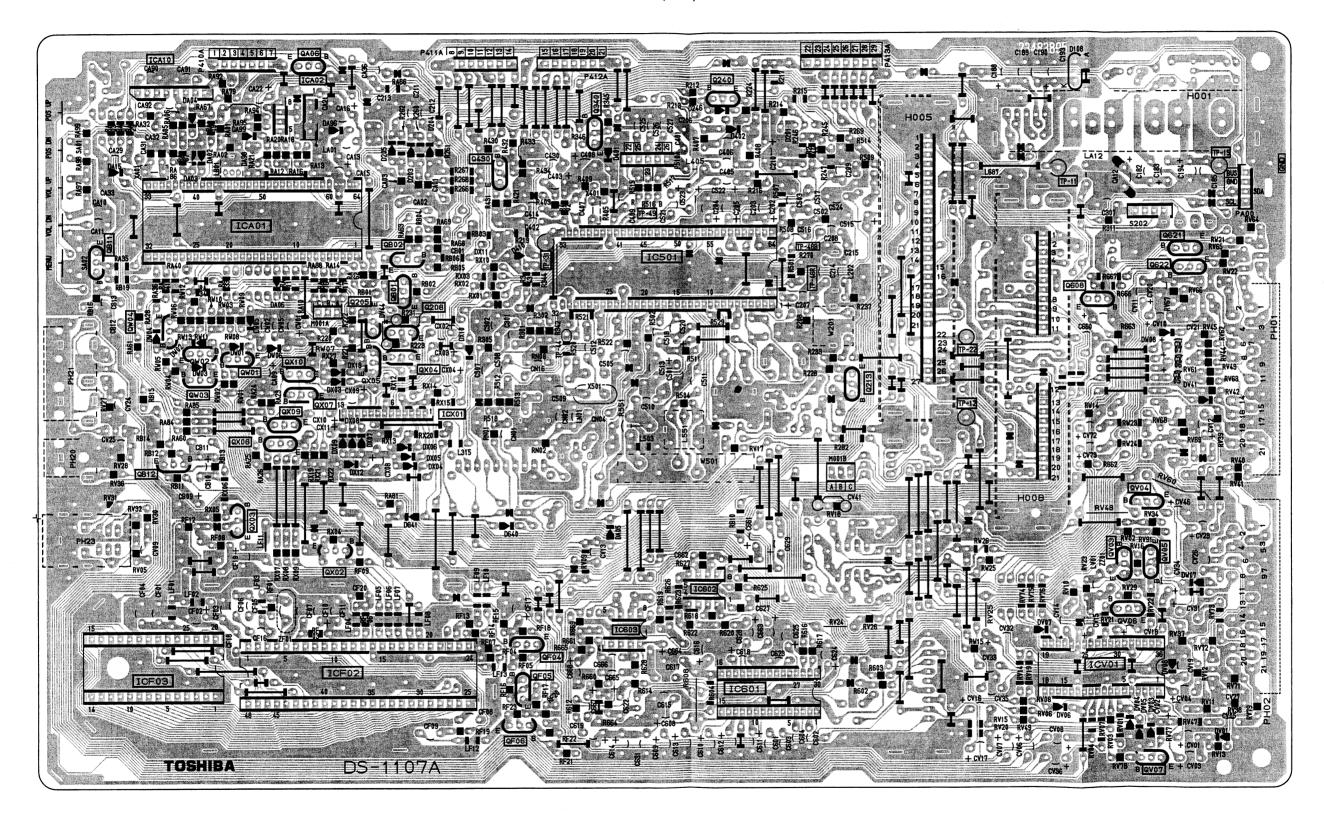
Location No.	Part No.	Description
D812	23115599	Diode, 1N4148
D813	23118479	Diode, BYD33J
D814	23115599	Diode, 1N4148
D815	23316339	
D816	23316311	
D825	23115599	Diode, 1N4148
D826	23115599	
D830	23118052	Diode, RU4Z
D831	23118479	Diode, BYD33J
D832	23118451	
D844	23316332	
D848	23316302	Diode, Zener, UZ4.7BSB
D861	23316310	Diode, Zener, UZ5.6BSC
D874	23316307	
D875	23115599	
D878	23316308	Diode, Zener, UZ5.6BSA
DA02	23316312	
DA03	23316312	Diode, Zener, UZ6.2BSB
DA04	23115599	Diode, 1N4148
DA05	23115599	Diode, 1N4148
DA06	23115599	
DA15	23316312	Diode, Zener, UZ6.2B\$B
DA96	23316312	Diode, Zener, UZ6.2B\$B
DA98	23316312	Diode, Zener, UZ6.2B\$B
DA99	23316312	Diode, Zener, UZ6.2B\$B
DD01	23316312 23118479	Diode, BYD33J
DD02	23316582	Diode, ERC20-06
DD03	23118479	Diode, BYD33J
DD04	23115599	Diode, BYD33J Diode, 1N4148
DD05	23316332	
DD06	23316309	Diode, Zener, UZ5.6B\$B
DD07	23316309	
DE50	23358504	Diode (LED),
		SCL003URC3FX, Red
DV01	23316327	Diode, Zener, UZ10BSB
DV03	23316327	
DV04	23316327	Diode, Zener, UZ10BSB
DV05	23316327 23316327	Diode, Zener, UZ10BSB
DV06	23316327	
DV07	23316327 23316324	
DV08	23316324	Diode, Zener, UZ9.1B\$B
DV40	23115599	Diode, 1N4148
DV44	23316302	Diode, Zener, UZ4.7B\$B
DW01	23115599	Diode, 1N4148
DW02	23115599	Diode, 1N4148
DW03	23115599	Diode, 1N4148
DW04	23115599	Diode, 1N4148
DW05	23316299	
DW06	23316304	
DW07	23316336	
DW08	23316336	·
DX03	23115599	
DX04	23115599	
DX05	23115599	
DX06	23115599	
DX07	23115599	
DX08	23115599	
DX09	23115599	
DX10	23115599	
DX10	23115599	
DX12	23316302	
DX13	23115599	
1		•
I		

Location	Part No.	Description	
No.			
MISCELLAN	NEOUS		
<b> £ F801</b>	23144473		
F801A	23165433	Holder, Fuse	
<b> £ £ 6 1 1 1 1 1 1 1 1 1 1</b>	23144874	· ·	
F803A	23165433		
H005	23148186		
H008	23148191	The state of the s	
K901 P410A	23120220 23902750		
P410B	23368518		
P411A	23902750		
P411B	23368518		
P412A	23902750	•	
P412B	23368518		
P413A	23902751		
P413B	23368519		
<b>△ P801</b>	23176772		
PH01	23365598		
PH02 PH20	23365598		
PH20 PH21	23365508	Pin Jack, Yellow Jack, Phono, 2P	
PH23	23365546	· · · · · · · · · · · · · · · · · · ·	
S202	23344333		
<b></b> \$801	23145434		
SA01	23145428	Switch, Push, 1C1Px4	
SA02	23145430	Switch, Push, 1C1P	
<b>△</b> ∨901A	23902067	Socket, CRT, 10P	
W201	23250878		
W501	23153357	1H Delay-Line,	
Mees	22251006	EFDED645A91M	
W661	23351086	Speaker, SPK-1358, 80x120mm, 8 ohm	
W662	23351086	Speaker, SPK-1358,	
11002	20001000	80x120mm, 8 ohm	
X401	23153721		
		TCR1023	
X501	23153979	Crystal, 4.43MHz	
XA01	23153845		
		TCR1015	
ZF01	23153012		
ZP31	23144452	_ ' !	
ZP81 ZP82		Protector, PRF5000 Protector, PRF1000	
ZF02 ZZ01		Ceramic Video Trap,	
	20.07070	4.43MHz, TCF1032	
PC BOARD	<b>ASSEMB</b>	LIES	
U902A	23702417	Signal Board, PB4162	
U903	23702416	Power/Def/Audio Board,	
		PB4163	
U <b>904</b>	23702219	CRT Drive Board, PB4003	
DIOTURE -	LIDE		
PICTURE T		District Tol Appendix	
<b>⚠</b> V901	23312379	Picture Tube, A59ECY13X31	
TUNER			
	22221000	Tupor VUENUE COACCI	
H001	23321069	Tuner, VHF/UHF, EG463L	
ACCESSOR	IFS		
		Remote Hand Unit, CT-9678	
AT03	23305085	· ·	
Y101	23561952	•	
		2535DN/2835DN	

			• •
Location	D. A.N.	5	
No.	Part No.	Description	
Y102	23561953	Owner's Manual,	Swedish,
\/400	******	2535DN/2835DN	
Y103	23561954	Owner's Manual, 2535DN/2835DN	Danish,
Y104	23561955	Owner's Manual,	Finnish,
Y105	23561956	2535DN/2835DN Owner's Manual,	Nonvogian
1 105	23301930	2535DN/2835DN	Norwegian

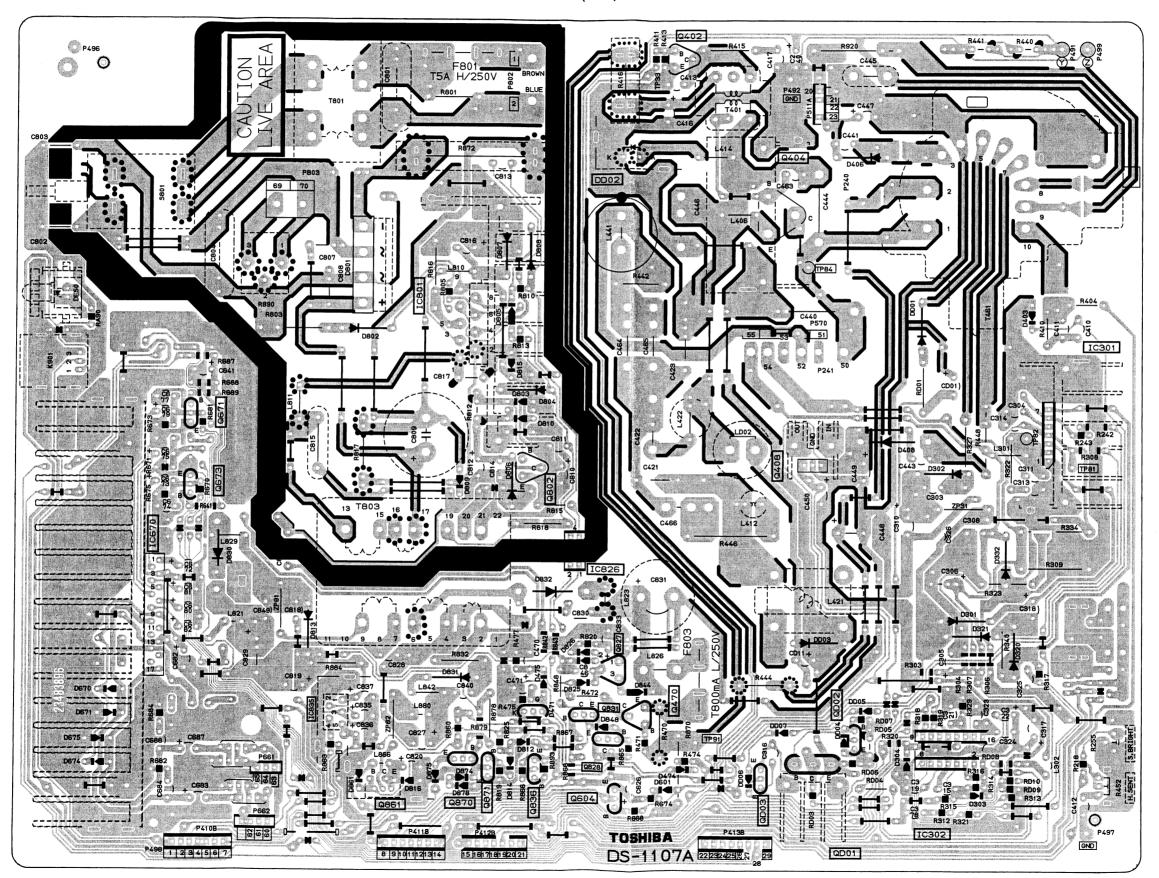
# SIGNAL BOARD PB4162

BOTTOM (FOIL) SIDE



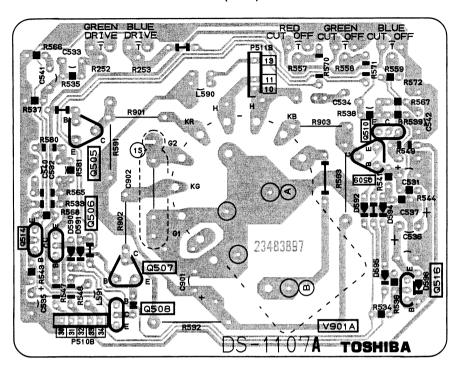
# POWER/DEF/AUDIO BOARD PB4163

BOTTOM (FOIL) SIDE



# **CRT DRIVE BOARD PB4003**

BOTTOM (FOIL) SIDE

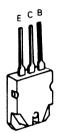


# TERMINAL VIEW OF TRANSISTORS

- ① 2SC1569
- ② 2SC3927(A)
- ③ 2SC2580-C 2SC2655

4 2SA933S 2SA1015-Y 2SA1320-Y 2SC752GTM 2SC1685-Q 2SC1740S 2SC1815-N 2SC1959-Y 2SC2120-Y 2SC2878-A

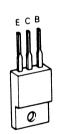






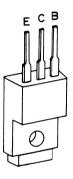
B C E

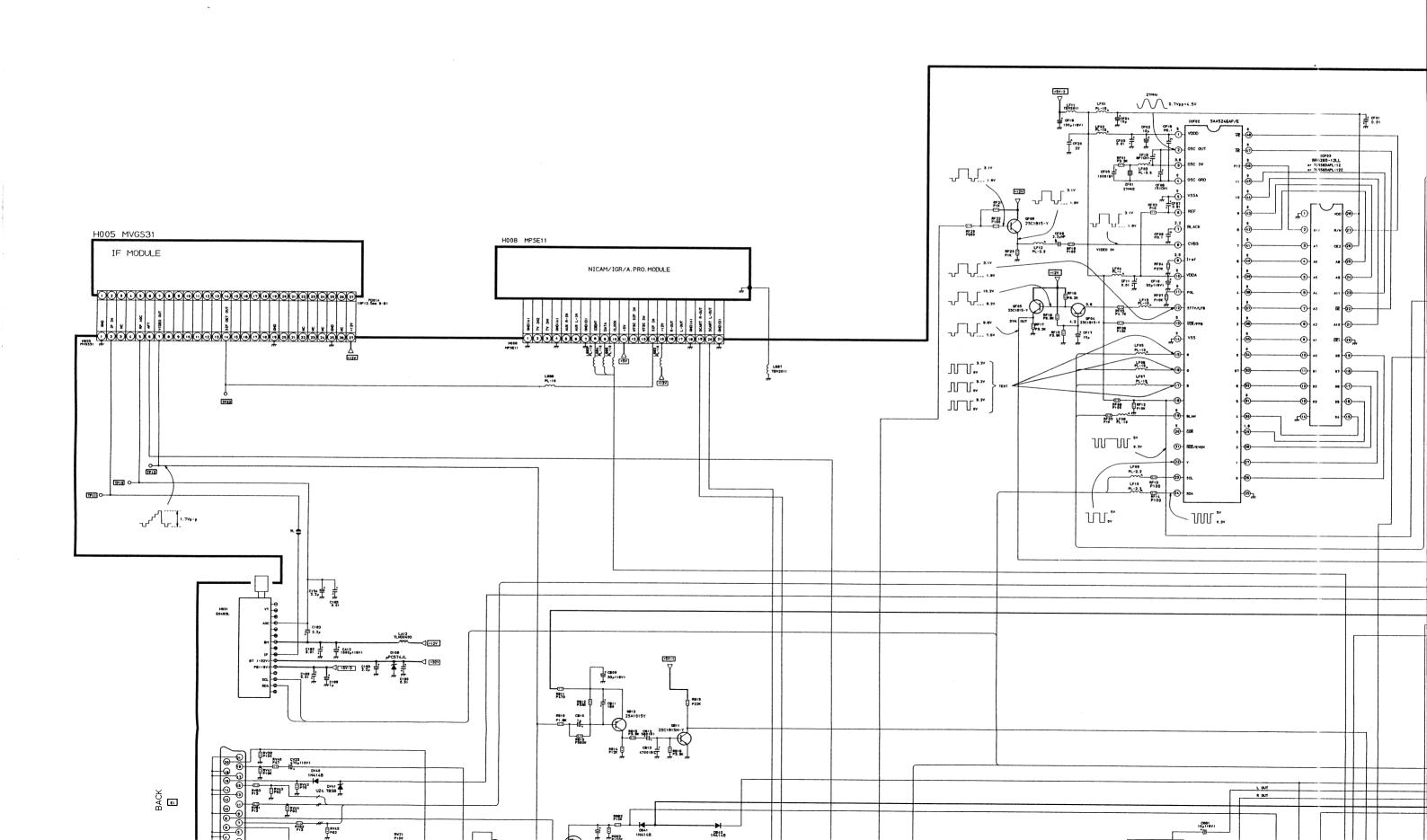
- 5 2SB1186A2SC38522SD2253
- ⑥ 2SC3619
- 7 RN1203 RN1204 RN1206 RN2004
- 8 2SB1186A 2SD1763A

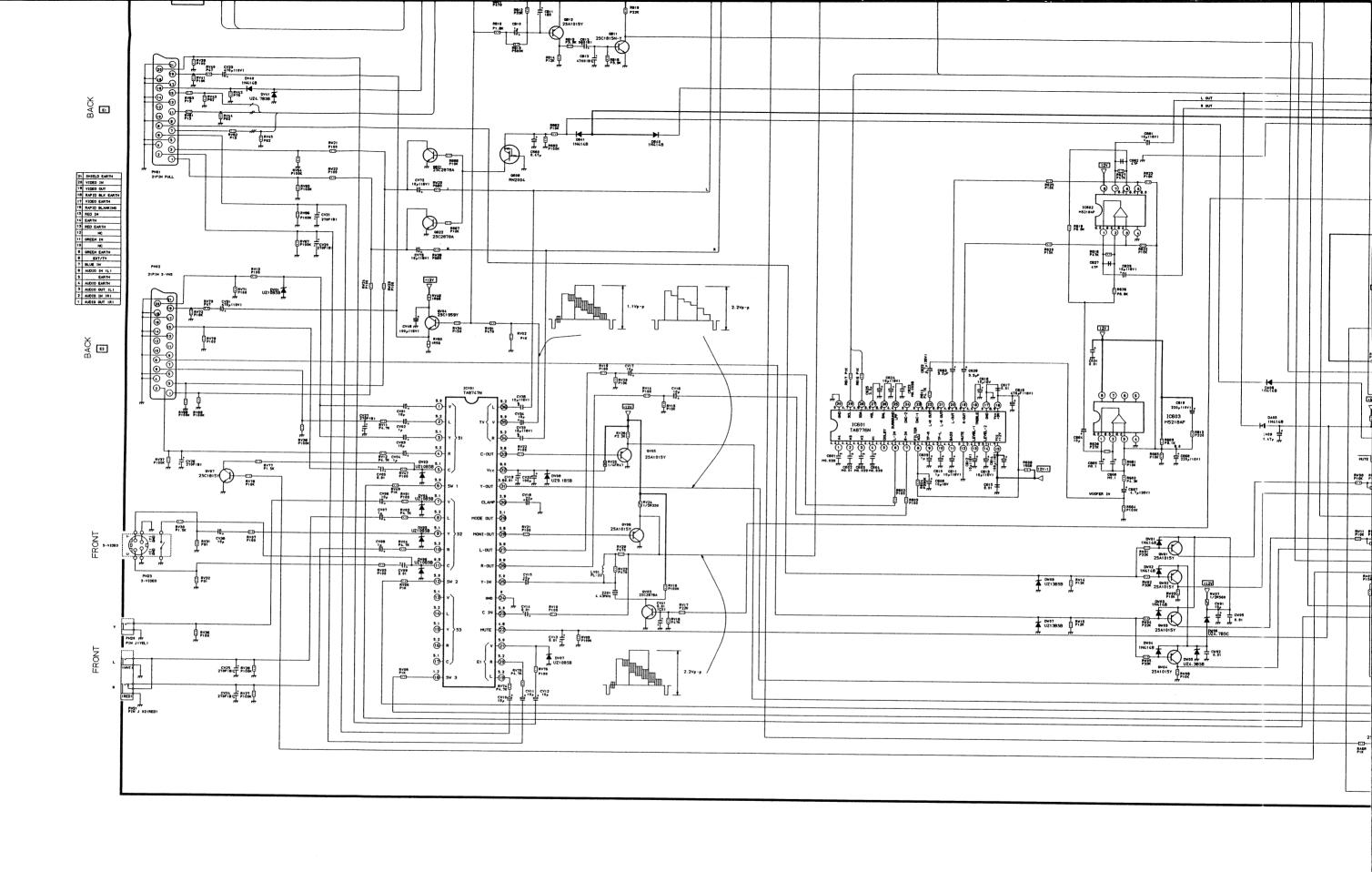


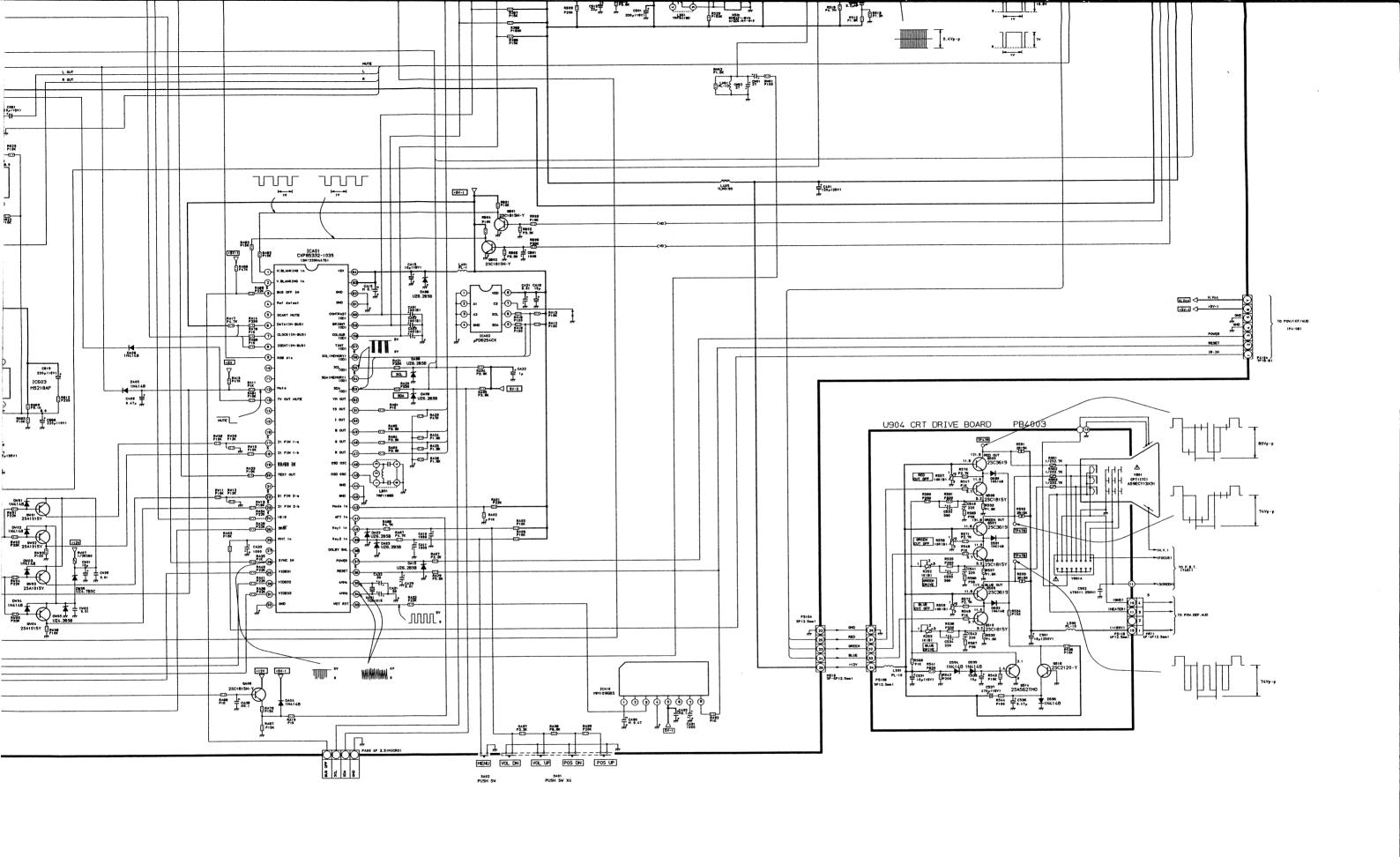












# 2535DN

# **SCHEMATIC DIAGRAM (2/2)**

### IMPORTANT SAFETY NOTICE

Component marked with the International Hazard Symbol must, if changed, be replaced by an approved type and must be mounted as the original. This will ensure that the safety standards adhered to during manufacture will be maintained following any servicing procedure.

### OBSERVATION OF VOLTAGES AND WAVEFORMS

- 1. Voltage readings were obtained using a high impedance digital voltmeter.
- (-) or ground lead of instruments should be connected to the ground marked (⊥) in the shematic on checking Non-isolated circuit surrounded by mark but should be connected to the points marked ( + ) on checking isolated circuit.
- 3. The voltage readings may vary as much as  $\pm 20\%$ .
- 4. Check that the Tuning, A.F.C., Brightness, Contrast and Colour controls are adjusted for the best picture, making sure that the Contrast, Brightness and Colour controls are set near to their mid-positions.
- 5. The waveforms were taken using a standard colour bar signal and were observed using a wide band oscilloscope via a low capacity probe.

### NOTES:

1. This circuit diagram is subject to change without notice.

### **EXPRESSION**

### VALUE OF RESISTOR, CAPACITOR and INDUCTOR

- 1. Resistance is shown in ohm, k=1,000, M=1,000,000.
- 2. Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
- 3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.

### GROUNDING SYMBOL

1. 1: Non isolated ground, 🔐 : Isolated ground.

RESISTORS

Prefixed to values

TYPE

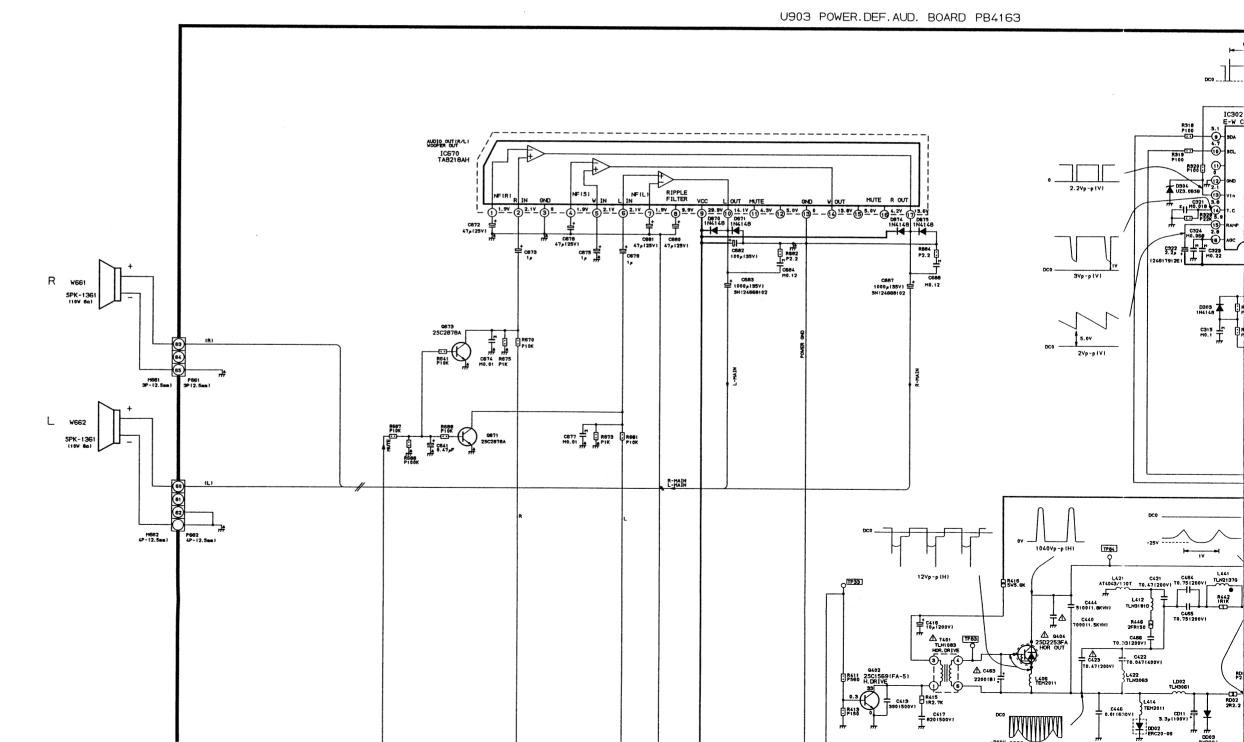
Carbon Cor Oxide Metal

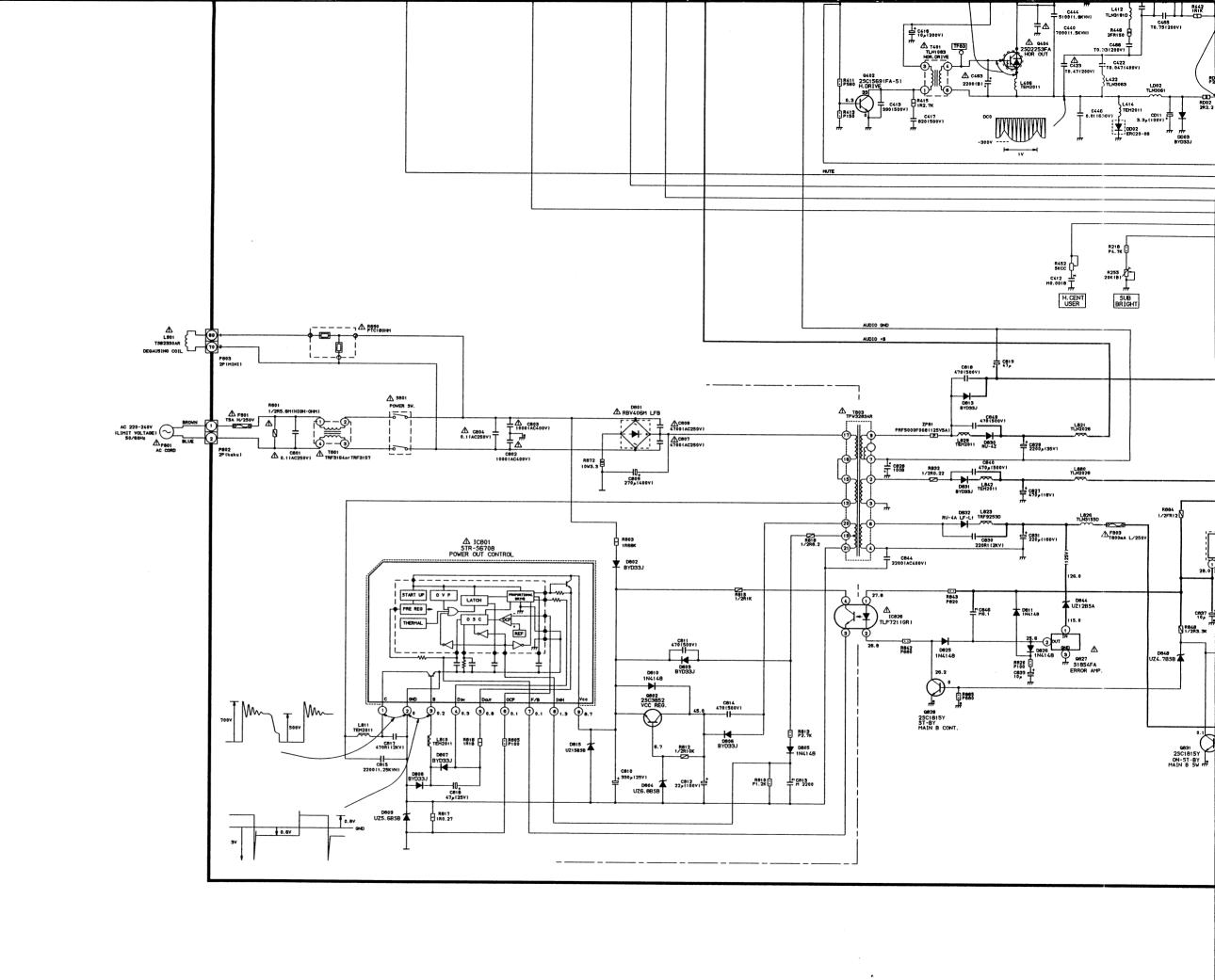
Ins. Carbon

Wire Wour

Cement covered

Fusible Re





### RESISTORS

1 are expressed in

1 are expressed in

### Prefixed to values:

TYPE	MARK
Carbon Comp.	S
Oxide Metal Film	R
Ins. Carbon Film	Р
Wire Wound	w
Cement covered W.W.	NO MARK
Fusible Res.	FR

### Suffixes to values:

TOLERANCE	MARK
±1%	(F)
± 2%	(G)

### Suffixes to VR values:

LAW	MARK	
Linear	(B)	
'C' Curve Characteristic	(C)	

### Rating Markings:

ATTAGE	MARK	WATTAG
1/6W		3 W
1/4W	- <b></b> -	5W
1/400		10W
1/2W		15W
1 W		20W
2W	-[2]-	25 W

### **CAPACITORS**

20

### Rating Markings:

Туре	Mark
Ceramic Disc 50V Only	4F
Electrolytic	┾┪┠ <del>╴</del> ┼
Electrolytic Non-Polar	- <b>111</b> -
Variable Capacitor	#
Other	41-

